

Robert Greene Steme chward J. Kessler Jorge A. Goldstein David K.S. Comwell Robert W. Esmond Iracy-Gene G. Durkin Michele A. Cimbala Michael B. Ray Robert E. Soxkohl Eric K. Steffe Michael Q. Lee Steven R. Ludwig John M. Covert Linda E. Allomig Lawrence B. Bugaisky Donald J. Featherstom Michael V. Mescinner

Judin U. Kim
Jimothy J. Shea, Jr.
Patrick E. Garrett
Jeffery T. Helvey*
Heid I. Kraus
Crystal D. Sayles
Edward W. Yee
Albert L. Ferro
Donald R. Banowir
Peter A. Jackman
Molly A. McCall
Teresa U. Medler
Jeffrey S. Weaver
Kendrick P. Pattersor
Vincent L. Capuano
Albert J. Fasulo II*
Eldora Ellison Floyd
W. Russell Swindell

Thomas C. Fiala Brian J. Del Bunon' Virgil Lee Beaston' Reginald D. Lucas' Kimberly N. Reddick Theodore A. Wood Eizabeth J. Haanes Bruce E. Chalker Joseph S. Ostroff Frank R. Cottingham' Christine M. Lhuller Rae Lynn Prengaman' Jane Shershenovich' Lawrence J. Carroll'

Senior Counsel Samuel L. Fox Kenneth C. Bass III Registered Patent Agents Karen R. Markowicz Andrea J. Kamage Nancy J. Leith Joseph M. Conrad III Ann E. Summerfield Helene C. Carlson Gaby L. Longsworth Matthew J. Dowd Aaron L. Schwartz Angelique G. Uy Boris A. Matvenko May B. Tung

*Admitted only in Maryland *Admitted only in Virginia *Admitted only in Texas

April 26, 2002

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TECH CENTER 1600/2900

WRITER'S DIRECT NUMBER: (202) 371-2544 INTERNET ADDRESS: MICIMBALA@SKGF.COM

Art Unit: 1652

Commissioner for Patents Washington, D.C. 20231

Re:

U.S. Utility Patent Application

Appl. No. 10/045,072; Filed: January 15, 2002

For: Pyruvate Carboxylase from Corynebacterium Glutamicum

Inventors: SINSKEY et al.

Our Ref: 1533.0790002/MAC/AGU

Sir:

Transmitted herewith for appropriate action are the following documents:

- 1. Information Disclosure Statement;
- 2. Form PTO-1449, 15 pages, listing 47 documents;
- 3. One copy of each of the 47 cited documents on Form PTO-1449; and
- 4. Return postcard.

It is respectfully requested that the attached postcard be stamped with the date of filing of these documents, and that it be returned to our courier. In the event that extensions of time are necessary to prevent abandonment of this patent application, then such extensions of time are hereby petitioned.

Sterne, Kessler, Goldstein & Fox PLIC: 1100 New York Avenue, NW: Washington, DC 20005: 202.371.2600 f 202.371.2540: www.skqf.com

Commissioner for Patents April 26, 2002 Page 2

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

Michele A. Cimbala

Attorney for Applicants

Trucket A. Centis

Registration No. 33,851

MAC/AGU/jk Enclosures

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Sinskey et al.

Appl. No. 10/045,072

Filed: January 15, 2002

For: **Pyruvate Carboxylase from**

Corynebacterium Glutamicum

Confirmation No. 3733

Art Unit:

Examiner:

To Be Assigned

Atty. Docket: 1533.0790002/MAC/AGU

Information Disclosure Statement

Commissioner for Patents Washington, D.C. 20231

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Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98. A copy of each of these documents is provided.

In accordance with 37 C.F.R. § 1.98(a)(3), Applicants' undersigned representative submits the following, in regards to non-English language document AM1 cited on Form PTO 1449:

Document AM1, WO 99/18228, is in a foreign language. An English language abstract of document AM1 is attached as document AR15. Document AM1 appears to disclose microbial production of amino acids of the asparate and/or glutamate families comprising increasing pyruvate carboxylase activity by genetic alteration of the enzyme and/or increasing expression of the pyruvate carboxylase gene in appropriate microorganisms.

Where the publication date of a listed document does not provide a month of publication, the year of publication of the listed document is sufficiently earlier than the effective U.S. filing date and any foreign priority date so that the month of publication is not in issue. Applicants have listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates

should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

This statement should not be construed as a representation that a search has been made, or that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith. It is further understood that the Examiner will consider information that had been cited or submitted to the U.S. Patent and Trademark Office in a prior application relied on under 35 U.S.C. § 120. 1138 OG 37, 38 (May 19, 1992).

It is respectfully requested that the Examiner initial and return a copy of the enclosed PTO-1449, and to indicate in the official file wrapper of this patent application that the documents have been considered.

This Information Disclosure Statement is being filed before the mailing date of a first Office Action on the merits. No statement or fee is required.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

michel A. Cinha

Michele A. Cimbala Attorney for Applicants

Registration No. 33,851

Date: Apr. 24,200 Z

1100 New York Avenue, N.W. Suite 600 Washington, D.C. 20005-3934 (202) 371-2600

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FORM PTO-1449

INFORMATION	DISCLOSURE	STATEMENT

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APPLICANT Sinskey et al.	
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AR Altschul, S.F. et al., "Basic Local Alignment Search Tool," J. Mol. Biol. 215:403-410, Academic Press, Inc., New York, NY (1990).							iol.		
	Attwood, P.V., "The Structure and the Mechanism of Action of Pyruvate AS 1 Carboxylase," Int. J. Biochem. Cell Biol. 27:231-249, Pergamon Press, Exeter, England (1995).								
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FORM PTO-1449

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	Charles, A.M. and Willer, D.W. "Pyruvate carboxylase from Thiobacillus novellus: properties and possible function," Can. J. Microbiol. 30:532-539, National Research Council Of Canada, Ottawa, Canada (1984).								
	AS	2	Dunn, M.F. et al., "Pyruvate Carboxylase from Rhizobium etli: Mutant Characterization, Nucleotide Sequence, and Physiological Role," J. Bacteriol. 178:5960-5970, American Society for Microbiology, Baltimore, MD (1996).						
	AT	2	Fry, D.C. et al., "ATP-binding site of adenylate kinase: Mechanistic implication of its homology with ras-encoded p21, F ₁ -ATPase, and other nucleotide-binding proteins," Proc. Natl. Acad. Sci. USA 83:907-911, National Academy of Sciences the USA, Washington, D.C. (1986).						-binding
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	AR	3	Gubler, M. et al., "Effects of phosphoenol pyruvate carboxylase deficiency on metabolism and lysine production in Corynebacterium glutamicum," Appl. Microbiol Biotechnol. 40:857-863, Springer-Verlag, Berlin, Germany (1994).						ciency on 1. Microbiol.	
	AS	3	Hanahan, D., "Studies on Transformation of <i>Escherichia coli</i> with Plasmids," <i>J. Mol. Biol.</i> 166:557-580, Academic Press, Inc., New York, NY (1983).						smids," $J.$	
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	AS	<u>4</u>	Molecular	Keilhauer, C. et al., "Isoleucine Synthesis in <i>Corynebacterium glutamicum</i> : Molecular Analysis of the <i>ilvB-ilvN-ilvC</i> Operon," <i>J. Bacteriol. 175</i> :5595-5603, American Society for Microbiology, Baltimore, MD (1993).						
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	Kondo, H. et al., "Cloning and nucleotide sequence of Bacillus stearotherm pyruvate carboxylase," Gene 191:47-50, Elsevier Science Publishers B.V., Amsterdam, Netherlands (May 1997).							thermophilus V.,	
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	AR	<u>6</u>	Biol. Chem	Lim, F. et al., "Sequence and Domain Structure of Yeast Pyruvate Carboxylase," J. Biol. Chem. 263:11493-11497, American Society for Biochemistry and Molecular Biology, Inc., Baltimore, MD (1988).						
	AS	<u>6</u>	Carboxylas	ilrad de Forchetti, S.R. and Cazzulo, J.J., "Some Properties of the Pyruvate arboxylase from <i>Pseudomonas fluorescens</i> ," <i>J. Gen. Microbiol. 93</i> :75-81, Cambridge niversity Press, Cambridge, England (1976).						
	AT	<u>6</u>	Bacteria,"	. et al., "On ' J. Gen. Appl pan (1976).	the Transducing Phages in G . <i>Microbiol</i> . 22:119-129, Mi	lutamic Accrobiology	cid-Produc Research	ing Foundation,		
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	AS	7	O'Brien, R.W. et al., "Novel Enzymic Machinery for the Metabolism o Phosphoenolpyruvate, and Pyruvate in <i>Pseudomonas citronellolis</i> ," <i>J.</i> 252:1257-1263, American Society for Biochemistry and Molecular Biol Baltimore, MD (1977).						
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Page 9 of 15 ATTY. DOCKET NO. APPLICATION NO. 1533.0790002 10/045,072 FORM PTO-1449 APPLICANT Sinskey et al. INFORMATION DISCLOSURE STATEMENT GROUP FILING DATE 1652 January 15, 2002 U.S. PATENT DOCUMENTS EXAMINER CLASS SUB-FILING DATE DOCUMENT DATE NAME INITIAL NUMBER CLASS AΑ AΒ AC AD ΑE AF AG AΗ ΑI ΑJ ΑK FOREIGN PATENT DOCUMENTS EXAMINER CLASS TRANSLATION INITIAL DOCUMENT DATE COUNTRY SUB-NUMBER CLASS Yes No Yes No ΑM Yes No AN Yes No ΑO Yes No OTHER (Including Author, Title, Date, Pertinent Pages, etc.) Peters-Wendisch, P.G. et al., "Pyruvate carboxylase from Corynebacterium glutamicum: characterization, expression and inactivation of the pyc gene," AR 9 Microbiology 144:915-927, Kluwer Academic/Plenum Publishers, Washington, D.C. (April 1998). Post, L.E. et al., "Dissection of the Functional Domains of Escherichia coli Carbamoyl Phosphate Synthetase by Site-directed Mutagenesis, " J. Biol. Chem. 9 265:7742-7747, American Society for Biochemistry and Molecular Biology, Inc., Baltimore, MD (1990).

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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

Reyes, O. et al., "'Integron'-bearing vectors: a method suitable for stable chromosomal integration in highly restrictive Corynebacteria," Gene 107:61-68, Elsevier Science Publishers B.V., Amsterdam, Netherlands (1991).

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	Simon, R. et al., "A Broad Host Range Mobilization System For In Vivo Genetic AT 10 Engineering: Transposon Mutagenesis in Gram Negative Bacteria," Bio/Technol. 1:784-791, Nature Publishing Co., New York (1983).								
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	AT	11	Genes fro	N. et al., " m a Blue-Gre Verlag, New	en Alg	llar Cloning and Ch a, <i>Anacystis nidu</i> NY (1981).	naracteriz lans," Mol	ation (of Riboson Genet. 18	mal RNA 34:359-363,		
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Bioeng. 41:633-646, Wiley, New York, NY (1993).

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

Towbin, H. et al., "Electrophoretic transfer of proteins from polyacrylamide gels to nitrocellulose sheets: Procedure and some applications, " Proc. Natl. Acad.

Sci. USA 76:4350-4354, National Academy of Sciences of the USA, Washington, D.C.

Corynebacterium glutamicum During Growth and Lysine Overproduction, " Biotechnol.

Vallino, J.J. and Stephanopoulos, G., "Metabolic Flux Distributions in



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